NRCS

United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report February 1, 2012

Photo from KTVB Channel 7 - January 31, 2012

This month we offer a new perspective on snow measurement. The above photo was taken from atop a snowtube looking down on Ron Abramovich who is measuring snow at Mores Creek Summit. KTVB fastened a GoPro camera to Ron's snowtubes to capture a bird's eye view for their story. GoPro videos have become popular with action sport athletes wanting to record their latest YouTube exploit. These cameras can be strapped to virtually anything to record a participant's view of the action. While measuring snow isn't as extreme as pulling a back flip off a 40 foot cliff into powder, this January's storms did post extreme snowfall amounts. Mores Creek Summit SNOTEL, in the Boise Basin, broke its two day record when 40 inches of new snow fell, adding 6.1 inches of snow water content between January 18-19, 2012. The previous two day record in terms of snow water content was 4.6 inches in January 2000. In the days following this storm a number of impressive avalanches occurred on nearby slopes in this popular backcountry snowmobiling and skiing area. Fortunately no injuries were reported.

Basin Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

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Contact - - Your local county Natural Resources Conservation Service Office
or
Natural Resources Conservation Service
Snow Surveys
9173 West Barnes Drive, Suite C
Boise, Idaho 83709-1574
(208) 378-5740

Internet Web Address
http://www.id.nrcs.usda.gov/snow/

To join a free email subscription list contact us by email at: IDBOISE-NRCS-SNOW@one.usda.gov

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when the snow melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to produce runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertainty is in the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

FEBRUARY 1, 2012

SUMMARY

La Nina returns and in one week Idaho's snowpack is back in the ballgame. Mother Nature finally delivered the combination of cold, wet weather to improve our snowpack and water supply outlook. The big winners were southwest Idaho, southern Idaho and the Boise basin where January precipitation amounts ranged from 124% of normal in the Boise basin to 204% in the Oakley basin. Owyhee basin snowpack percentages increased from 17% of normal on January 16 to 68% on February 1; similarly the Bruneau basin increased from 30% to 62%; Salmon Falls basin 37% to 76%, Goose Creek 39% to 98%; and the West Central Mountains from 55% to 85% of normal on February 1. Elsewhere, snowpacks are 85% of average or better in the Upper Snake, Salmon, Clearwater, Spokane and northern Panhandle. The lowest snowpacks are about 65% of average in the Little Wood, Big Lost, Little Lost, and Mud Lake area, along with the Owyhee and Bruneau basins. Reservoir storage remains in great shape across the state and will provide a cushion if this winter's snowpack ends the season below normal. Streamflow forecasts now range from half of average in the Owyhee and Salmon Falls basins to near average in the headwaters of the Snake in Wyoming, Selway, Lochsa and Idaho's Panhandle Region. Stay tuned. We are just over half way through the winter and another high pressure ridge is building over the West for the first half of February and snowpack percentages will again drop 1-2 percentage points per day. The best advice for weather watchers, snow riders and water users is to expect more of the same variability in weather for the next few months.

SNOWPACK

The transformation in Idaho's snowpack in the second half of January was amazing. It only took Mother Nature a matter of days to blanket Idaho's mountains in a deep layer of snow. New daily snow water increase records were set at several sites in January. Several sites in the Boise basin received up to 50 inches of snowfall in two days. Idaho's southern basins recorded some of the greatest recoveries of snowpack in January since the 1980s. In just over a week, Oakley, Salmon Falls and Owyhee basins recorded 150-200% of January's normal monthly precipitation total. The Oakley basin had the greatest January increase since 1980 while Owyhee basin had the greatest increase since 1996. More detailed analysis would show this recovery is one the fastest turn-a-rounds in a 7 or 10 day period since daily snow records start. Statewide, Idaho's snowpack ranges from 65-90% of normal for most basins. Keep in mind; current snowpacks are only 40-60% of their seasonal peak amounts that occur in early April. Surprisingly, many sites across the state are not too much less than last year at this time; however, the weather gates did not really open until mid-March last year. The next two months will tell how this snow season's snowpack ends up on April 1. It looks like February will have a dry start so another round of La Nina storms will be needed to bounce snowpack percentages back up and ensure a healthy 2012 water supply for Idaho.

PRECIPITATION

The first half of January followed the dry December weather pattern. A stubborn high pressure ridge diverted moisture either north to Canada and Alaska or south to New Mexico. However, on January 17 the weather pattern seemed to change nearly over night and the gates were opened allowing abundant moisture to track into the state. Thanks to orographic lifting,

precipitation really kicked in up in the mountains allowing higher elevations to receive abundant snowfall compared to lesser amounts in the valleys. Monthly total precipitation amounts were not unusually high across the state, but what was unusual, was that nearly all the precipitation fell from January 17-27. One small pocket in Idaho, the Little Lost and Mud Lake area, received only 65% of normal January precipitation. Water year-to-date precipitation varies across the state ranging from 80% of normal in the Bear River to 120% in Albion Mountain range surrounding Oakley basin and City of Rocks National Monument.

RESERVOIRS

Idaho's reservoirs continue to be in excellent shape, storing more water at the end of January than has occurred in several years. Owyhee and Oakley reservoirs are the highest since 2006 and 2007, respectively. Combined storage in Palisades and Jackson system, Bear Lake and Magic Reservoir are the highest since January 1999 or 2000. Salmon Falls storage is the highest since January 1987; and Mackay Reservoir is the highest since 1983. This is more good news for Idaho's surface and groundwater users. High baseflows have been observed for several years in the Big Lost and Little Lost basins. As a result, Mackay Reservoir released water in the fall until the river froze in December. The surface water made the long journey around Arco towards the Big Lost River Sinks, which is where the water drains into the ground on big runoff years. Above average baseflow levels have also been observed above Oakley Reservoir and Salmon Falls basin. This is a change from the drier conditions that were observed in the first half of the previous decade.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts tracked the weather and increased in late January like a good week on the stock market. As of February 1, the lowest forecasts are in the Owyhee and Salmon Falls basin at 50-55% of normal. Streams forecast in the 60-75% of normal range can be found in the Lemhi, Big Wood, Little Wood, Big Lost, Blackfoot, Portneuf, Bruneau and Bear basins. The highest forecasts are 90-105% of normal in the headwaters of the Snake River in Wyoming, Falls River, Oakley basin, as well as the Lochsa, Selway, Spokane, Boundary, Smith and Moyie rivers. Elsewhere, the majority of the state is forecast at 75-90% of normal. With the first two weeks of February looking dry as a blocking high pressure ridge sets up, expect the Daily Water Supply Forecasts on the Idaho NRCS water supply webpage to decrease like a bad week on the stock market. Let's hope La Nina returns in late February causing forecasts to rebound once again.

Note: Forecasts published in this report are NRCS forecasts. NRCS uses timely SNOTEL data to provide streamflow forecasts. Jointly coordinated published forecasts by the USDA NRCS and the NOAA NWS are available from the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html. Water users may wish to use a lesser exceedance forecast to reduce the risk of coming up water short or greater volume to mitigate high flow potential.

RECREATION

Long awaited storms finally arrived in mid-January to the delight of winter recreationists. Dry conditions earlier this winter led to a snow rider's drought in parts of the state. Bogus Basin Resort, near Boise, did not open until January 19th, its all-time latest opening. The previous record was January 6th in 1990. Near McCall, Brundage Mountain Resort started running its lifts December 30th, marking its second latest opening. Brundage's latest opening was January 8, 1977. Good things come to those who wait and Idaho's winter recreationists were treated to snowfall measured in feet not inches. Sun Valley picked up nearly three feet of new snow in a week. Bogus Basin and Pomerelle had three and a half feet. Brundage Mountain Resort scored the highest totals, receiving more than five feet of fresh snow in less than seven days. Current snow amounts in central Idaho are pretty close to last year at this time, although the number of storm days has been greatly reduced. Since December 1, the number of significant snowfalls has been compressed into two short bursts, 3 days at the end of December and 10 days in mid-January. Looking towards summer, these storms have boosted Idaho's snowpacks to an ideal level with plenty of water expected for a fun-filled spring and summer river running season.

NRCS MID-MONTH STREAMFLOW FORECASTS

We are proposing to discontinue producing the mid-month streamflow forecasts. These were originally produced as requested forecasts for specific users and grew into production of mid-month forecasts for the entire state. Since 2007, NRCS developed and has been using Daily Water Supply Forecasts (DWSF) that are available for 27 forecasts points in Idaho to monitor daily trends. These DWSF have worked well over the last several years and have allowed users to monitor the changing water supply conditions on a daily basis. User information graphs with additional water supply information and cumulative flow are also produced and updated once or twice per month. Historic forecasts are maintained for users to review forecast accuracy performance.

These experimental DWSF have verified well over the years, but are uncoordinated and automated using real-time SNOTEL data, which is limited to snow water equivalent and precipitation data. The potential of these products is where our future lies. Inclusion of additional variables to improve streamflow forecast prediction to assist users in their decisions is our goal. If you have any questions on the DWSF products or have a need for the mid-month streamflow forecast, please contact Ron Abramovich.
http://www.id.nrcs.usda.gov/snow/watersupply/daily_guidance.html.

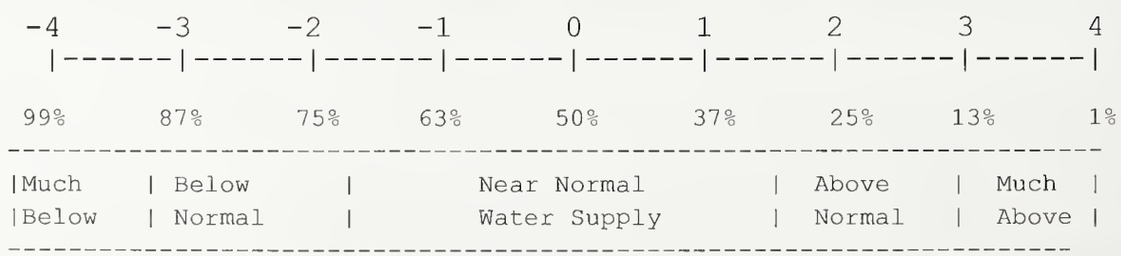
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) February 1, 2012

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortages Occur When SWSI is Less Than*
Northern Panhandle	**0.8**	**2008**	**NA**
Spokane	**-0.4**	**2010**	**NA**
Clearwater	**-1.0**	**2004**	**NA**
Salmon	**-0.4**	**2003**	**NA**
Weiser	**-1.2**	**2009**	**NA**
Payette	**-0.7**	**2000**	**NA**
Boise	**1.2**	**2009**	**-1.3 to -1.6**
Big Wood	**-0.4**	**2009**	**0.5 to 0.7**
Little Wood	**0.4**	**2009**	**-1.3 to -1.6**
Big Lost	**-0.4**	**2005**	**0.3 to 0.5**
Little Lost	**0.1**	**2006**	**1.0 to 1.3**
Teton	**0.3**	**2010**	**-3.7 to -3.9**
Henrys Fork	**0.0**	**2010**	**-3.4 to -3.6**
Snake (Heise)	**1.4**	**2009**	**-1.3 to -1.6**
Oakley	**1.8**	**2011**	**0.3 to 0.5**
Salmon Falls	**1.4**	**1996**	**-0.4 to -0.8**
Bruneau	**-0.7**	**2008**	**NA**
Owyhee	**0.4**	**2005**	**-3.0 to -3.5**
Bear River	**2.0**	**2011**	**-2.3 to -2.6**

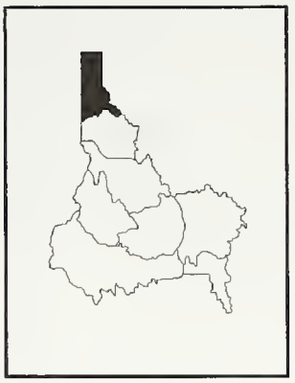
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

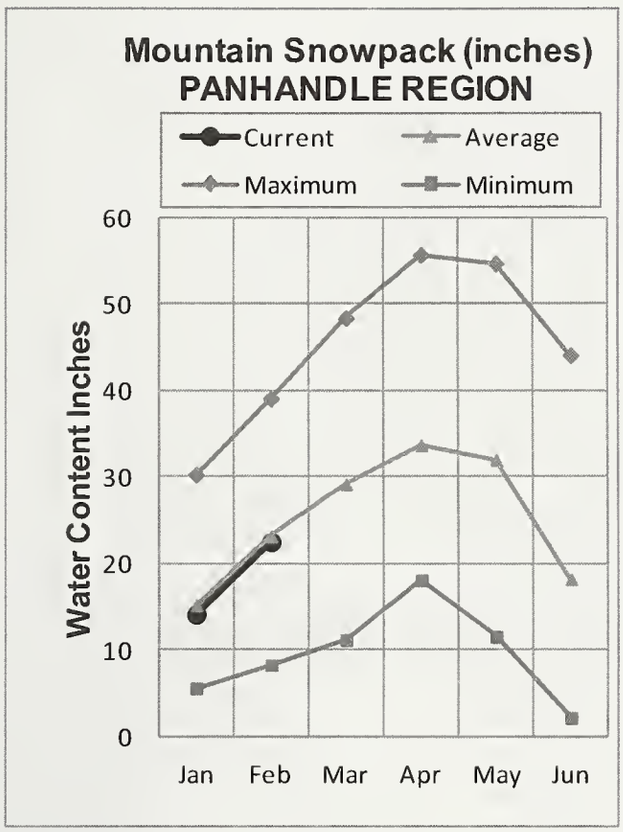


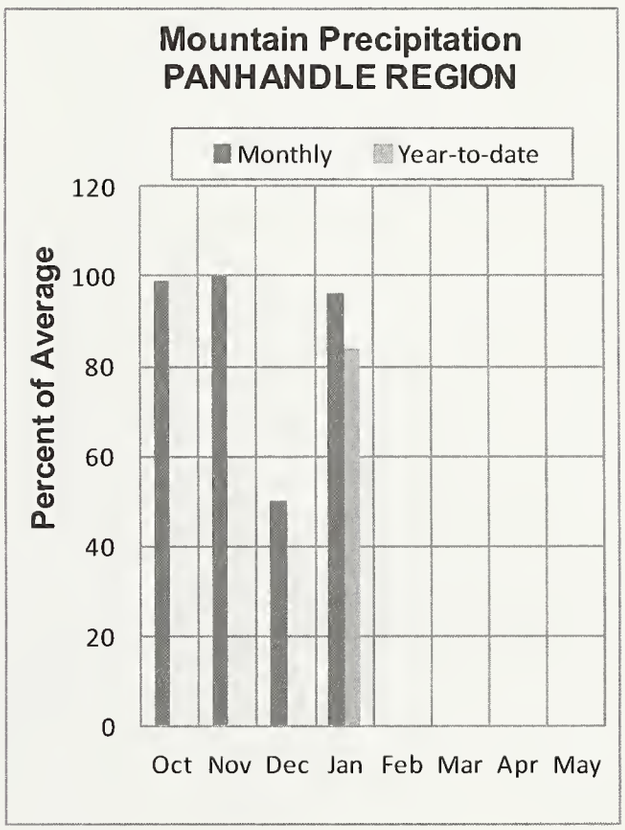
NA = Not Applicable, Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION

FEBRUARY 1, 2012







WATER SUPPLY OUTLOOK

The mountains in the Kootenai, Moyie and Priest River drainages have received enough snow to bring the snowpack up to near average levels, and are slightly better than last year at this time. Moving south into the Coeur d' Alene and St. Joe drainages, the snow water content is 80-85% of average and becomes more variable from site to site. For example, Lost Lake SNOTEL site, located at 6,110 feet elevation on the St. Joe and Spokane river divide is 74% of average, while Humboldt Gulch SNOTEL, a low elevation SNOTEL site in the Coeur d' Alene drainage, is 120% of average. Lookout SNOTEL, located at the ski area and also in the Coeur d'Alene drainage is 88% of average. The variable pattern can be explained by the northern storm track that was forced around a stubborn ridge of high pressure. Once the weather pattern broke, stellar skiable snow brought joy to recreationists, but it was not enough to boost the thinner snowpacks up to average in the southern part of this region. The seasonal streamflow forecasts are expected to be near average where the snow is best and near 80-85% in the southern basins, such as the St. Joe and Coeur d' Alene rivers. With two more months of winter, there is still time to catch up to average.

PANHANDLE REGION
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Kootenai R at Leonia (1,2)	APR-JUL	5120	5770	6150	87	6530	7230	7040
	APR-SEP	5900	6660	7030	87	7400	8210	8120
Moyie R at Eastport	APR-JUL	300	350	385	95	420	470	405
	APR-SEP	310	365	400	95	435	490	420
Smith Ck nr Porthill	APR-JUL	88	106	119	97	132	150	123
	APR-SEP	89	110	124	96	138	159	129
Boundary Ck nr Porthill	APR-JUL	93	107	117	95	127	141	123
	APR-SEP	97	112	122	95	132	147	129
Clark Fork at Whitehorse Rpds (1,2)	APR-JUL	7890	9100	9880	87	10700	11900	11300
	APR-SEP	8990	10200	11000	88	11800	13300	12500
Pend Oreille Lake Inflow (2)	APR-JUL	8770	9960	10800	85	11600	12900	12700
	APR-SEP	9810	10900	11800	85	12700	14200	13900
NF Coeur d'Alene R at Enaville	APR-JUL	380	510	595	80	680	810	740
	APR-SEP	415	540	630	81	720	845	780
St. Joe R at Calder	APR-JUL	745	875	960	84	1050	1180	1140
	APR-SEP	800	930	1020	85	1110	1240	1200
Spokane R nr Post Falls (2)	APR-JUL	1800	2150	2400	94	2650	2800	2550
	APR-SEP	1880	2250	2500	94	2750	2910	2650
Spokane R at Long Lake (2)	APR-JUL	2140	2540	2820	99	3100	3500	2850
	APR-SEP	2350	2760	3040	99	3320	3730	3070

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
PEND OREILLE	1561.3	632.2	827.0	749.3
COEUR D'ALENE	238.5	49.6	210.8	115.6
PRIEST LAKE	119.3	55.5	53.2	55.5

PANHANDLE REGION
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	8	93	95
Moyie River	1	125	118
Priest River	2	108	102
Pend Oreille River	61	85	92
Rathdrum Creek	3	69	69
Coeur d'Alene River	6	91	82
St. Joe River	4	93	85
Spokane River	13	88	81
Palouse River	1	109	100

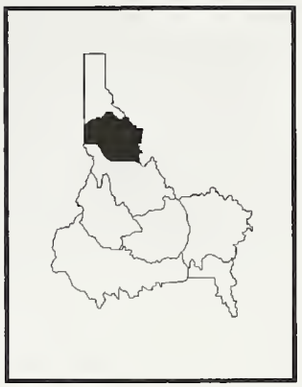
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

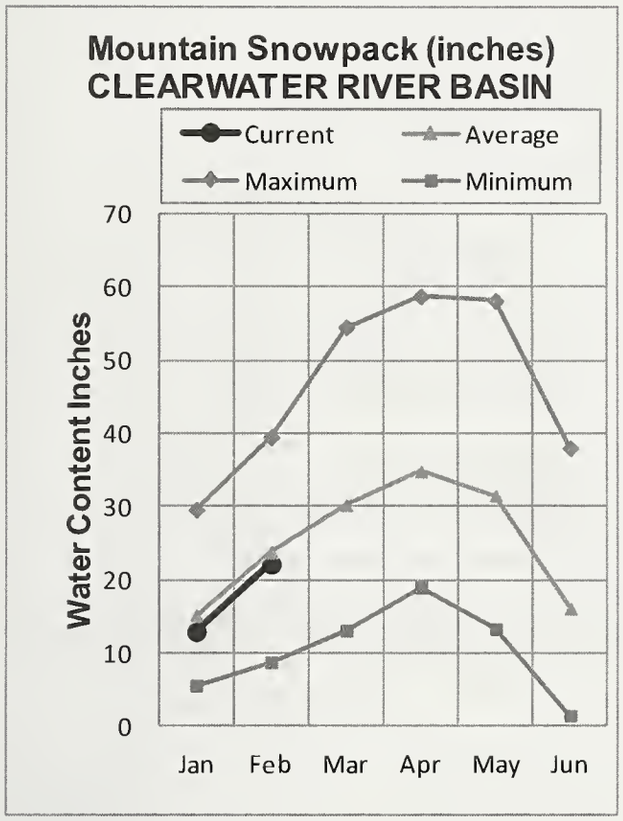
The average is computed for the 1971-2000 base period.

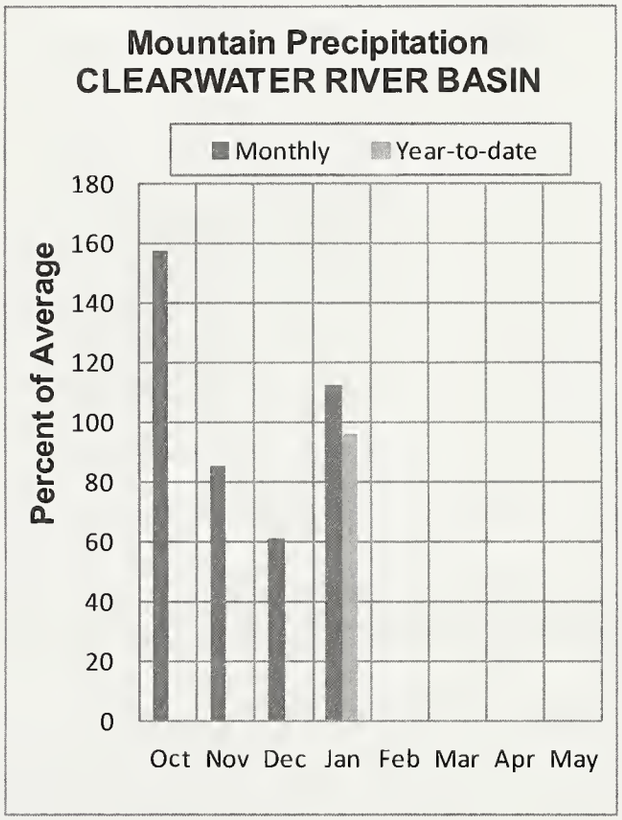
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

CLEARWATER RIVER BASIN

FEBRUARY 1, 2012







WATER SUPPLY OUTLOOK

By the end of January, after all of the new snow settled, the Clearwater Basin's SNOTEL sites measured up to four new feet of snow depth and up to 14 new inches of snow water content. All of that equates to 112% of average precipitation received for the month, with the bulk of it falling during a handful of days. As of February 1, the Clearwater snowpack as a whole is 92% of normal. The North Fork Clearwater drainage, which feeds Dworshak Reservoir, has the lowest snowpack at 90% while the best snow is 103% of average in Lochsa's high country. The current snowpack is very similar to 2009, another recent La Nina year where the snowpack climbed to average levels by April. Dworshak Reservoir is in good shape with storage sitting at 98% of average, 66% of capacity, and an inflow forecast for 84% of average. The Lochsa and Selway Rivers have the highest forecasts at 98% of average and should provide excellent water levels for river runners.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	APR-JUL	1630	1860	2010	98	2160	2390	2060
	APR-SEP	1740	1960	2120	98	2280	2500	2170
Lochsa R nr Lowell	APR-JUL	1230	1400	1510	99	1620	1790	1530
	APR-SEP	1290	1460	1580	98	1700	1870	1610
Dworshak Res Inflow	APR-JUL	1740	1990	2210	84	2430	2760	2640
	APR-SEP	1870	2100	2330	83	2560	2920	2800
Clearwater R at Orofino (1)	APR-JUL	3250	3780	4330	93	4880	5030	4650
	APR-SEP	3430	3980	4530	92	5080	5300	4900
Clearwater R at Spalding (1,2)	APR-JUL	5120	5700	6630	89	7560	7830	7430
	APR-SEP	5420	6070	7000	89	7930	8250	7850

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2288.9	2326.8	2324.3

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	88	90
Lochsa River	2	97	103
Selway River	4	94	96
Clearwater Basin Total	16	90	91

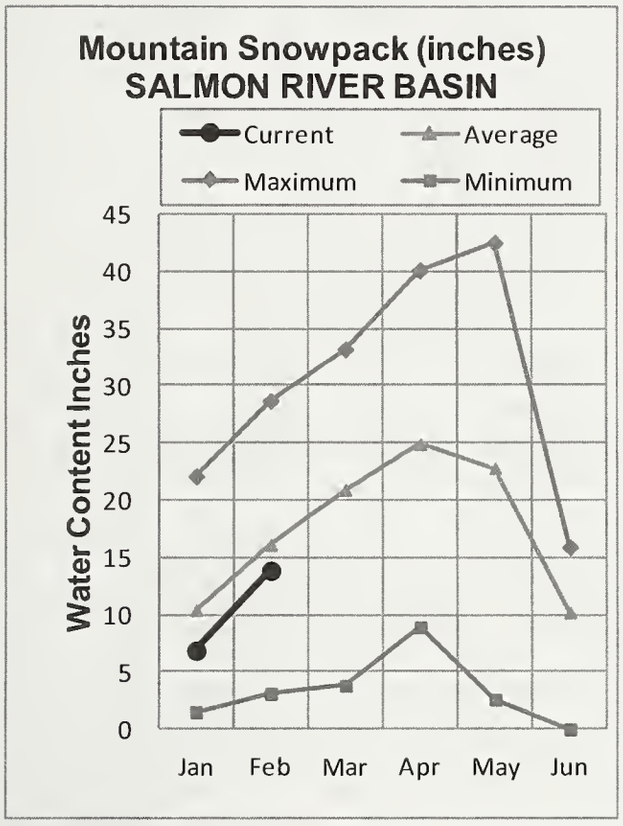
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

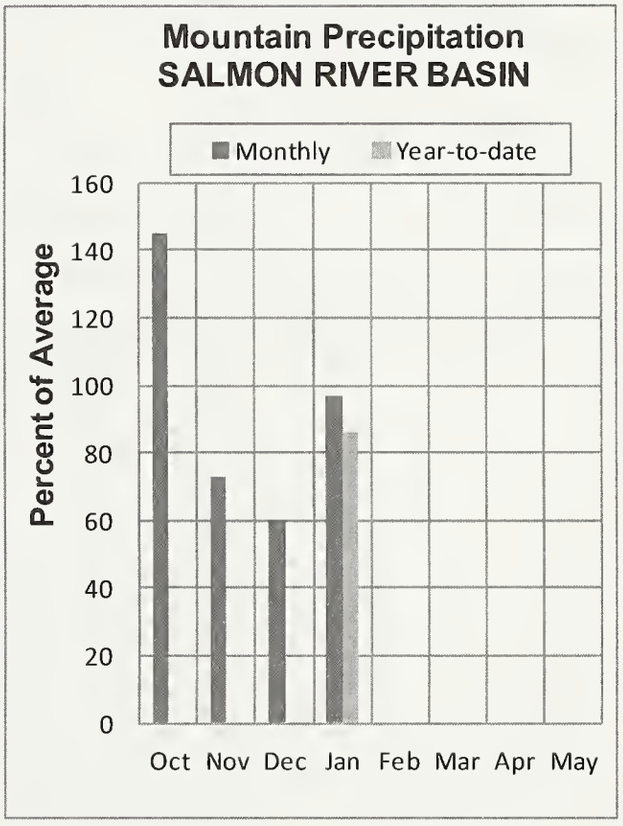
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SALMON RIVER BASIN

FEBRUARY 1, 2012





WATER SUPPLY OUTLOOK

Snow dreams came true starting on January 19th with several feet of snow hammering the Salmon basin. The storms started with light powder and ended with heavier snow causing a natural avalanche cycle and rising streamflow levels. This impressive storm cycle brought 97% of average precipitation for the month but the dry weather in November and December leaves the water year-to-date precipitation at 86% of average; this explains why the February 1 snowpack is only 84% of average. The lowest snowpacks can be found in the Lemhi Range at 73% of average and consequently, the Lemhi River has the lowest streamflow forecast at 61% of average for the April-July period. The mountains contributing to the mainstem Salmon and Middle Fork Salmon rivers have an 80-85% of average snowpack with similar percentages for the summer streamflow volumes. Last year, the snow had a slow start but on February 1, the snowpack reached 99% of average. 2009 had a similar snowpack to this February and the snow ended up at average by April and May. The beginning of February is forecast to be dry again, but if this spring is anything like the last few, the snow still has a chance to catch-up. The bright side is that there is good coverage for snow recreation and it will provide a fun whitewater season this summer. As seen in 2010, a low snow year does not always mean low stream peaks and slim water supplies. All it takes is a rapid warm up or rainfall during active snowmelt to quickly drive the rivers to high levels.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Salmon R at Salmon (1)	APR-JUL	350	585	690	81	795	1030	855
	APR-SEP	410	680	805	81	930	1200	1000
Lemhi R nr Lemhi	APR-JUL	26	40	52	61	65	88	86
	APR-SEP	33	50	63	60	78	103	105
MF Salmon R at MF Lodge	APR-JUL	365	525	635	81	745	905	785
	APR-SEP	410	590	710	81	830	1010	875
SF Salmon R nr Krassel RS	APR-JUL	142	186	215	74	245	290	290
	APR-SEP	152	196	225	73	255	300	310
Johnson Ck at Yellow Pine	APR-JUL	109	137	156	76	175	205	205
	APR-SEP	115	144	163	76	182	210	215
Salmon R at White Bird (1)	APR-JUL	2630	3990	4610	79	5230	6590	5850
	APR-SEP	2930	4440	5120	79	5800	7310	6480

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	95	87
Lemhi River	6	65	73
Middle Fork Salmon River	3	86	81
South Fork Salmon River	3	84	81
Little Salmon River	4	97	87
Salmon Basin Total	23	85	84

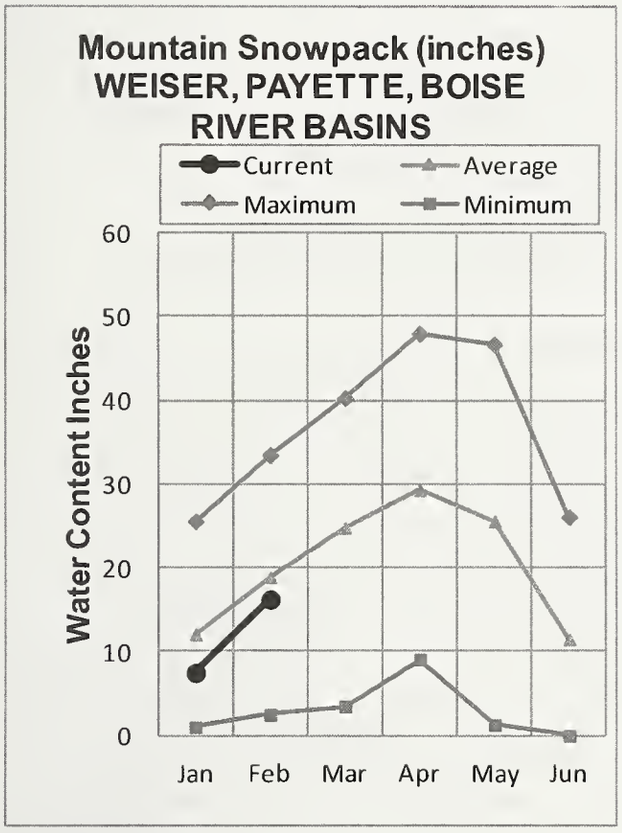
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

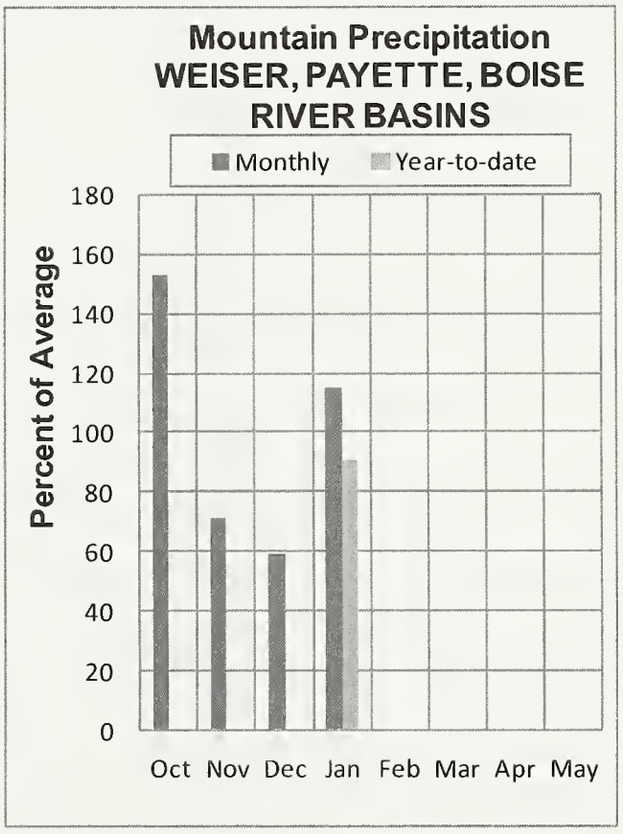
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS

FEBRUARY 1, 2012





WATER SUPPLY OUTLOOK

These central Idaho basins received all of their normal January monthly precipitation in 10 days, breathing life back into winter and improving the water supply picture significantly. Precipitation from January 17-27 added from 5 to almost 11 inches of water content to the snowpack. Monthly precipitation was best in the Boise Basin at 124% of normal, followed closely by the Weiser basin at 122%. The Payette Basin received 105% of its normal monthly amount. Water year-to-date precipitation since October 1st stands at 91% of normal across these basins. The February 1 snowpack for the west central mountains is 86% of normal, up 17% from last month. The Boise Basin's snowpack at 88% of normal is the best, while the Payette with 82% has the least. Surprisingly, the Boise's basin snowpack is now just slightly behind last year at this time. Reservoir storage remains above normal in the Boise and Payette systems. The Boise system is storing 120% of normal, 70% of capacity and the Payette system has 112% of normal storage, also 70% of capacity. Expect flows on the Boise River to increase in the coming weeks. Streamflow forecasts have improved since last month and range from 75-90% of normal. Water users can expect adequate supplies this summer thanks to excellent reservoir storage and improving snow levels. Hopefully the La Nina forecast for greater than average precipitation through the spring holds true.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser (1)	FEB-JUL	205	390	495	76	610	910	650
	APR-JUL	120	230	295	76	365	550	390
	APR-SEP	136	255	320	76	395	580	420
SF Payette R at Lowman	APR-JUL	280	340	380	86	425	495	440
	APR-SEP	320	385	430	87	480	555	495
Deadwood Resv Inflow (1,2)	APR-JUL	69	97	110	82	123	151	134
	APR-SEP	73	104	118	83	132	163	142
Lake Fork Payette R nr McCall	APR-JUL	52	61	67	79	74	84	85
	APR-SEP	53	62	69	78	76	87	89
NF Payette R at Cascade (1,2)	APR-JUL	233	358	415	80	472	597	520
	APR-SEP	242	371	430	80	489	618	540
NF Payette R nr Banks (2)	APR-JUL	365	465	535	79	605	705	675
	APR-SEP	370	480	555	79	630	740	700
Payette R nr Horseshoe Bend (1,2)	APR-JUL	843	1164	1310	80	1456	1777	1640
	APR-SEP	840	1220	1400	80	1580	1960	1760
Boise R nr Twin Springs (1)	APR-JUL	380	520	585	92	650	790	635
	APR-SEP	415	565	635	92	705	855	690
SF Boise R at Anderson Ranch Dam (1,	APR-JUL	250	390	455	84	520	660	540
	APR-SEP	270	420	485	84	550	700	580
Mores Ck nr Arrowrock Dam	APR-JUL	58	83	103	79	125	161	131
	APR-SEP	60	86	107	78	130	167	137
Boise R nr Boise (1,2)	APR-JUN	750	990	1100	87	1210	1450	1260
	APR-JUL	735	1080	1230	87	1380	1720	1410
	APR-SEP	835	1180	1330	87	1480	1820	1530

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	2.6	4.3	4.3
CASCADE	693.2	501.6	453.9	448.4
DEADWOOD	161.9	96.4	101.1	86.3
ANDERSON RANCH	450.2	377.2	328.4	283.6
ARROWROCK	272.2	238.5	216.0	201.1
LUCKY PEAK	293.2	94.3	96.7	106.6
LAKE LOWELL (DEER FLAT)	165.2	120.1	122.0	101.7

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	73	76
Weiser River	3	78	85
North Fork Payette	8	85	82
South Fork Payette	5	91	86
Payette Basin Total	15	85	82
Middle & North Fork Boise	5	92	87
South Fork Boise River	7	98	92
Mores Creek	6	83	84
Boise Basin Total	15	93	88
Canyon Creek	2	92	89

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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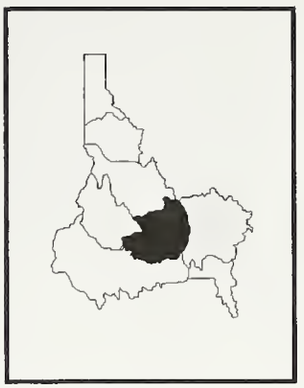
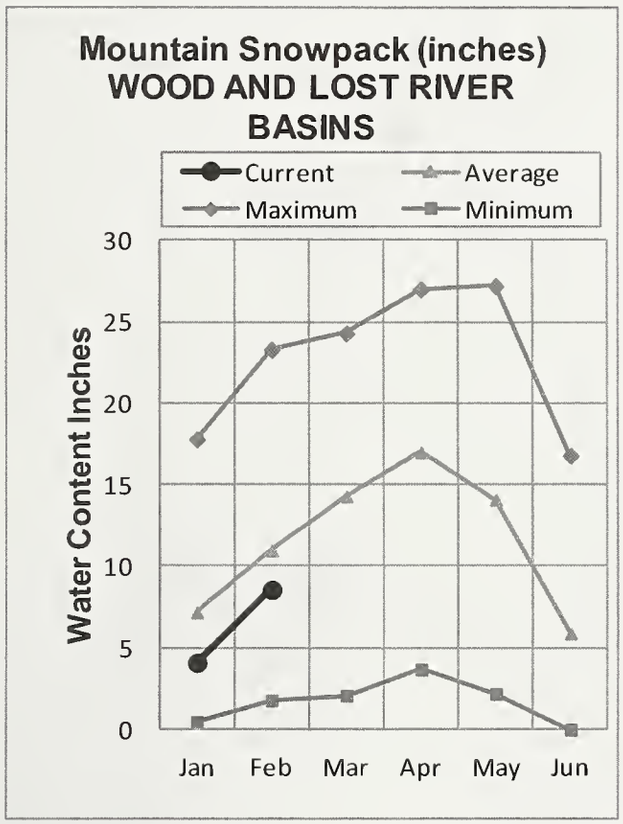
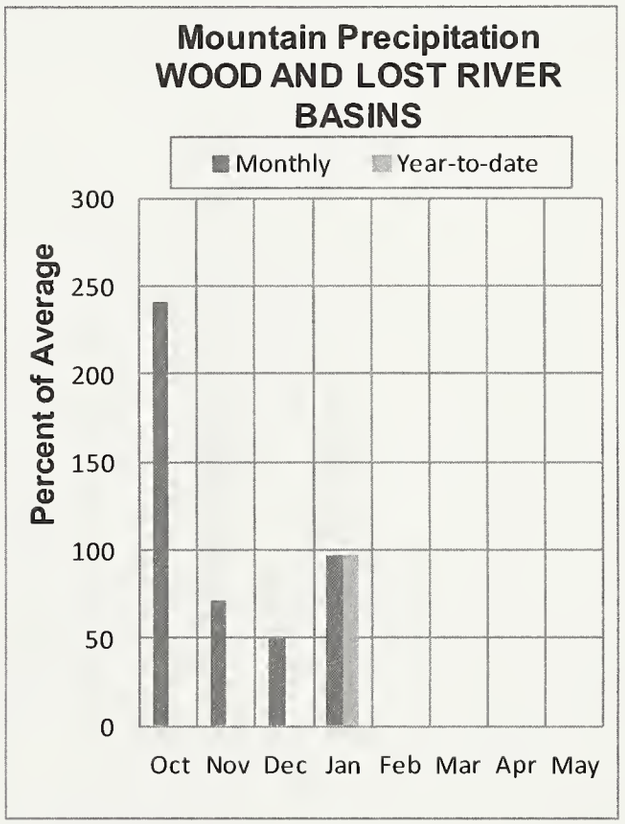
WOOD and LOST RIVER BASINS

FEBRUARY 1, 2012







WATER SUPPLY OUTLOOK

The Wood and Lost basins benefitted from the strong storms in mid-January, but not as much as other basins in the state. The snowpack in this region ranges from 60% of normal in the Little Lost to 83% in the Big Wood. The Big Wood basin's snowpack increased about 15 percentage points since January 1, an amount comparable to other basins in central Idaho. The Big Wood has virtually an identical amount of snow this year as it did last year at this time. Snowpacks for the other basins in this region only increased about 5-10 percentage points leaving the Big Lost and Little Lost with the lowest snowpack in the state. January's monthly precipitation ranged from 109% of average in the Big Wood down to 64% in the Little Lost and Mud Lake area, which also brought the water year-to-date precipitation since October 1 down to average levels. Storage in Little Wood Reservoir is 162% of average, 88% of capacity. Magic Reservoir is 142% of average, 63% of capacity and Mackay Reservoir is 133% of average, 83% of capacity. Streamflow forecasts range from 60% of average in the Big Wood to 87% in the Little Lost. This year's excellent reservoir storage is the bright spot in the water supply outlook. Baseflows also appear to be on the rise from the good moisture over the past few years. Hopefully snowpacks will continue climbing closer to average in the next two months to ensure adequate irrigation water supplies and help recharge ground water levels.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Big Wood R at Hailey (1)	APR-JUL	57	155	200	78	245	345	255
	APR-SEP	64	175	225	78	275	385	290
Big Wood R ab Magic Res	APR-JUL	50	84	114	60	150	215	190
	APR-SEP	55	91	123	60	161	230	205
Camas Ck nr Blaine	APR-JUL	22	46	68	68	94	139	100
	APR-SEP	23	47	69	68	95	140	101
Big Wood R bl Magic Dam (2)	APR-JUL	48	142	205	71	270	360	290
	APR-SEP	53	150	215	71	280	375	305
Little Wood R ab High Five Ck	MAR-JUL	23	44	62	73	83	120	85
	MAR-SEP	25	48	67	73	90	129	92
Little Wood R near Carey (2)	MAR-JUL	38	58	72	75	86	106	96
	MAR-SEP	41	63	78	75	93	115	104
Big Lost R at Howell Ranch	APR-JUL	70	106	135	78	167	220	173
	APR-SEP	79	120	153	78	190	250	197
Big Lost R bl Mackay Res	APR-JUL	37	75	100	71	125	163	141
	APR-SEP	47	93	124	72	155	200	172
Little Lost R nr Howe	APR-JUL	16.9	23	27	87	32	39	31
	APR-SEP	21	28	34	87	40	50	39
Camas Ck at Camas	APR-JUL	2.0	5.2	13.5	45	22	34	30

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	121.1	86.0	85.0
LITTLE WOOD	30.0	26.4	19.4	16.3
MACKAY	44.4	36.8	35.4	27.7

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	97	82
Camas Creek	3	93	91
Big Wood Basin Total	11	96	83
Fish Creek	3	70	77
Little Wood River	7	76	73
Big Lost River	6	70	64
Little Lost River	3	59	60
Birch-Medicine Lodge Cree	2	64	70
Camas-Beaver Creeks	4	55	57

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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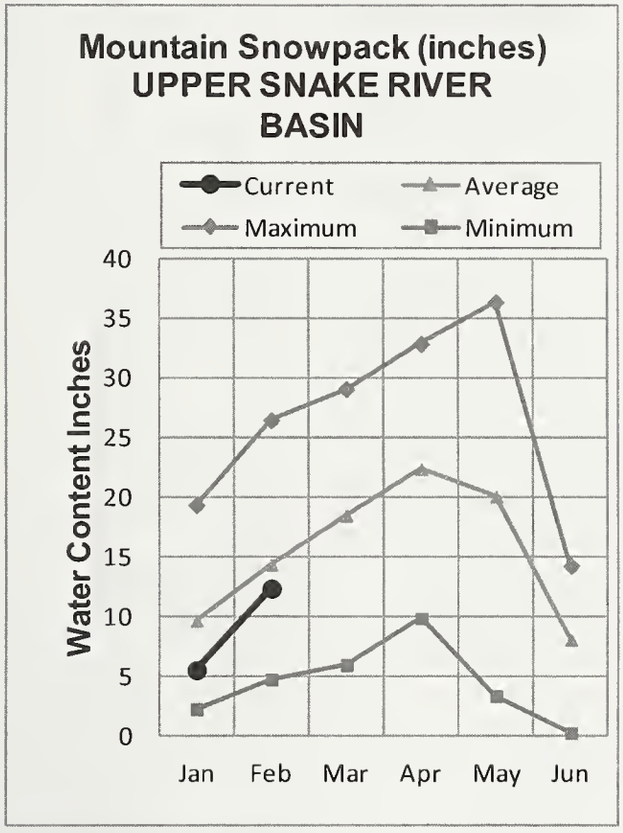
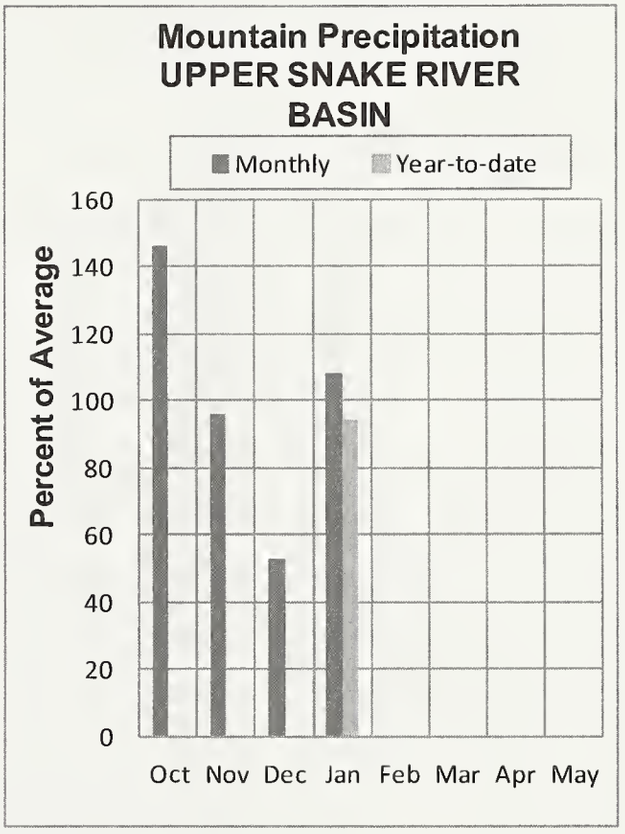
UPPER SNAKE BASIN

FEBRUARY 1, 2012





WATER SUPPLY OUTLOOK

Above normal precipitation returned in January increasing the Upper Snake snowpack and improving the water supply outlook. The current snowpack is 86% of normal basin wide, an increase of about 15 percentage points from January 1. The snowpack above Jackson Lake in Wyoming has been near normal all year and remains in this category. Pacific Creek's snowpack is 119% of normal, which is a little better than last February. Water year-to-date precipitation since October 1 is 94% of average. Reservoir storage for the 8 major reservoirs in the basin is excellent at 115% of average, 78% of capacity. Like the snowpack, streamflow forecasts improved since last month. The best streamflow forecast is for 105% of normal for Pacific Creek, while the lowest is 71% for the Portneuf River. The Snake River at Heise is forecast at 88% of normal for the April–September period. Combining reservoir storage with the forecasted streamflow volumes indicates that surface irrigation supplies will be adequate as long as the Snake River at Heise April-September forecast is above 65% of average. This should be an easy goal for Mother Nature to beat. The last time the streamflow was less than 65% of average was 2007, when the April-September volume was 56% of average.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Henrys Fork nr Ashton (2)	APR-JUL	345	415	465	82	520	605	570
	APR-SEP	485	575	635	83	700	800	765
Falls R nr Ashton (2)	APR-JUL	270	310	340	90	370	420	380
	APR-SEP	320	370	405	90	440	495	450
Teton R nr Driggs	APR-JUL	103	128	146	89	166	197	165
	APR-SEP	128	159	183	87	210	250	210
Teton R nr St. Anthony	APR-JUL	245	305	345	85	390	460	405
	APR-SEP	300	365	415	87	465	550	480
Henrys Fork nr Rexburg (2)	APR-JUL	1040	1210	1320	85	1430	1600	1560
	APR-SEP	1390	1570	1700	85	1830	2010	2010
Snake R at Flagg Ranch	APR-JUL	405	460	500	101	540	595	495
	APR-SEP	440	505	545	100	585	650	545
Snake R nr Moran (1,2)	APR-JUL	595	720	780	96	840	965	815
	APR-SEP	650	795	860	95	925	1070	905
Pacific Ck At Moran	APR-JUL	138	163	180	105	197	220	171
	APR-SEP	143	169	187	105	205	230	178
Buffalo Fork ab Lava nr Moran	APR-JUL	240	275	300	100	325	360	301
	APR-SEP	280	320	345	100	370	410	344
Gros Ventre R at Kelly	APR-JUL	138	175	200	100	225	260	200
	APR-SEP	176	215	245	100	275	315	244
Snake R nr Alpine (1,2)	APR-JUL	1610	1980	2150	91	2320	2690	2370
	APR-SEP	1850	2280	2470	91	2660	3090	2730
Greys R Nr Alpine	APR-JUL	200	255	290	85	325	380	340
	APR-SEP	230	295	335	85	375	440	395
Salt R Nr Etna	APR-JUL	134	220	275	81	330	415	340
	APR-SEP	174	275	340	81	405	505	420
Snake R nr Irwin (1,2)	APR-JUL	2160	2690	2930	88	3170	3700	3330
	APR-SEP	2520	3120	3390	88	3660	4260	3870
Snake R nr Heise (2)	APR-JUL	2470	2860	3130	88	3400	3790	3560
	APR-SEP	2890	3340	3640	88	3940	4390	4160
Willow Ck nr Ririe (2)	MAR-JUL	45	63	75	85	87	105	88
Blackfoot R ab Res nr Henry	APR-JUN	25	42	55	75	70	97	73
Portneuf R at Topaz	MAR-JUL	43	54	63	71	72	87	89
	MAR-SEP	53	67	77	71	88	105	109
Snake R at Neeley (1,2)	APR-JUL	2000	2400	2830	87	3260	3850	3240
	APR-SEP	2180	2580	3050	87	3520	4180	3510

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	87.2	87.2	83.2
ISLAND PARK	135.2	109.2	94.1	102.2
GRASSY LAKE	15.2	12.1	13.0	11.8
JACKSON LAKE	847.0	638.8	661.0	490.1
PALISADES	1400.0	1236.5	867.5	1040.3
RIRIE	80.5	44.2	43.3	35.8
BLACKFOOT	348.7	283.3	206.8	220.1
AMERICAN FALLS	1672.6	1162.7	1147.8	1125.4

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	7	76	84
Teton River	6	78	87
Henrys Fork above Rexburg	13	77	85
Snake above Jackson Lake	9	90	99
Pacific Creek	3	101	116
Gros Ventre River	3	71	83
Hoback River	5	76	85
Greys River	4	68	83
Salt River	5	69	83
Snake above Palisades	26	79	91
Willow Creek	7	69	86
Blackfoot River	4	74	82
Portneuf River	6	65	77
Snake abv American Falls	43	76	89

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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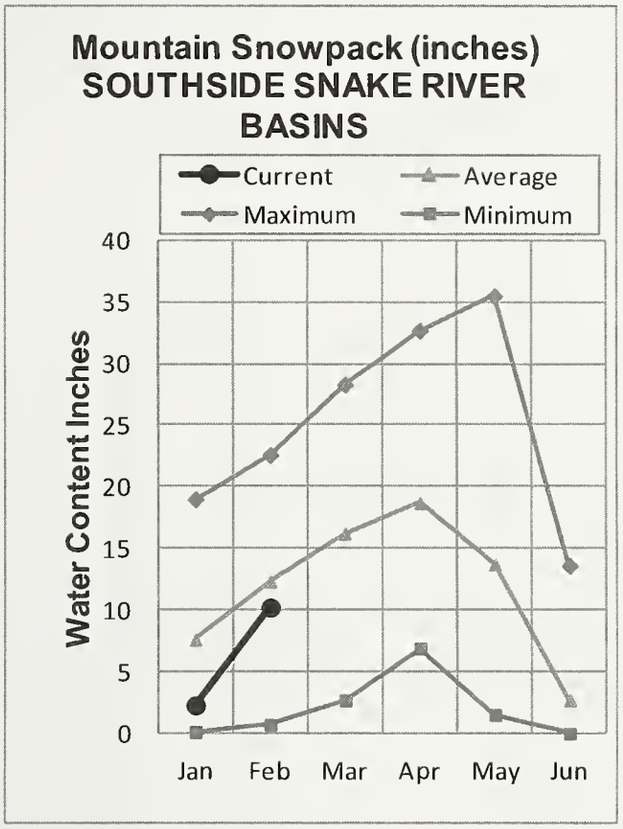
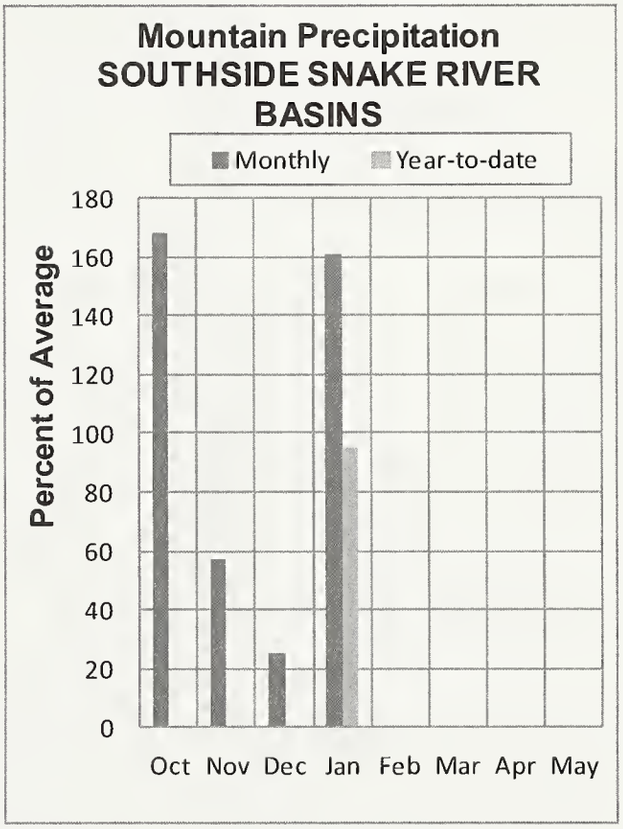
SOUTHSIDE SNAKE RIVER BASINS

FEBRUARY 1, 2012





WATER SUPPLY OUTLOOK

Southern Idaho had the greatest benefit from January's 10 day blast of winter weather. In just over a week Goose, Salmon Falls and Owyhee basins recorded 150-200% of January's normal monthly precipitation total. This was the greatest January increase since 1980 in the Oakley basin and greatest since 1996 in the Owyhee basin. Bostetter R.S. and Magic Mountain SNOTEL sites both set new records for January precipitation amounts receiving 7.6 inches and 9.1 inches respectively. Water year-to-date precipitation since October 1 stands at 95% of average. Snowpacks, which were at or near record lows on January 1, increased by about 30 to 50 percentage points since last month. February 1 snowpacks are below normal for most basins ranging from about 65% in the Owyhee and Bruneau basins, to 76% in the Salmon Falls Basin, to 98% in the Goose-Trapper basins. Streamflow forecasts range from half of average in the Owyhee basin to 95% of average for Oakley Reservoir inflow. In contrast to the below normal snow and streamflow forecasts, reservoirs are well above normal. Reservoir storage will provide a buffer should below normal snowfall continue through the rest of the winter. Reservoir storage ranges from 112% of normal in Brownlee to 154% of normal in Salmon Falls. Owyhee Reservoir is 72% full and currently contains over 450,000 acre-feet, which is the threshold needed to meet summer irrigation demand. Given the excellent carryover storage in all three of these reservoirs, minimal runoff is needed this spring to meet irrigation demands.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Goose Ck ab Trapper Ck nr Oakley	MAR-JUL	12.8	19.5	24	92	29	35	26
	MAR-SEP	16.0	23	28	93	33	40	30
Trapper Ck nr Oakley	MAR-JUL	5.0	6.0	6.6	92	7.2	8.2	7.2
	MAR-SEP	6.2	7.2	7.9	91	8.6	9.6	8.7
Oakley Res Inflow	MAR-JUL	17.0	25	32	94	39	52	34
	MAR-SEP	18.7	28	35	95	43	56	37
Salmon Falls Ck nr San Jacinto	MAR-JUN	23	37	48	54	61	83	89
	MAR-JUL	23	38	50	54	64	87	93
	MAR-SEP	25	40	53	54	67	92	98
Bruneau R nr Hot Springs	MAR-JUL	73	115	148	63	186	250	235
	MAR-SEP	77	120	155	62	194	260	250
Owyhee R nr Gold Ck (2)	MAR-JUL	6.8	11.5	15.7	49	21	30	32
	MAR-SEP	5.9	10.1	13.9	45	18.6	27	31
Owyhee R nr Rome	FEB-JUL	65	183	315	48	445	640	655
	FEB-SEP	73	196	330	49	465	660	675
	APR-SEP	31	118	215	54	310	455	400
Owyhee R bl Owyhee Dam (2)	FEB-JUL	143	255	350	50	460	645	700
	FEB-SEP	163	280	375	51	485	675	730
	APR-SEP	96	176	245	57	325	465	430
Snake R at King Hill (1,2)	APR-JUL	1350	2160	2530	82	2900	3710	3090
Snake R nr Murphy (1,2)	APR-JUL	1460	2310	2700	87	3090	3940	3090
Snake R at Weiser (1,2)	APR-JUL	1910	3870	4760	83	5650	7610	5770
Snake R at Hells Canyon Dam (1,2)	APR-JUL	1910	4000	4960	76	5910	8010	6490
Snake R bl Lower Granite Dam (1,2)	APR-JUL	14600	15400	18300	85	21200	21600	21550

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	34.2	19.3	28.2
SALMON FALLS	182.6	85.7	44.2	55.7
WILDHORSE RESERVOIR	71.5	49.2	31.9	38.9
OWYHEE	715.0	516.6	355.6	438.3
BROWNLEE	1420.0	1320.1	1251.2	1176.3

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	2	74	93
Goose-Trapper Creeks	2	115	98
Salmon Falls Creek	7	71	76
Bruneau River	8	54	62
Reynolds Creek	4	81	80
Owyhee Basin Total	19	52	55
Owyhee Basin SNOTEL	8	67	68

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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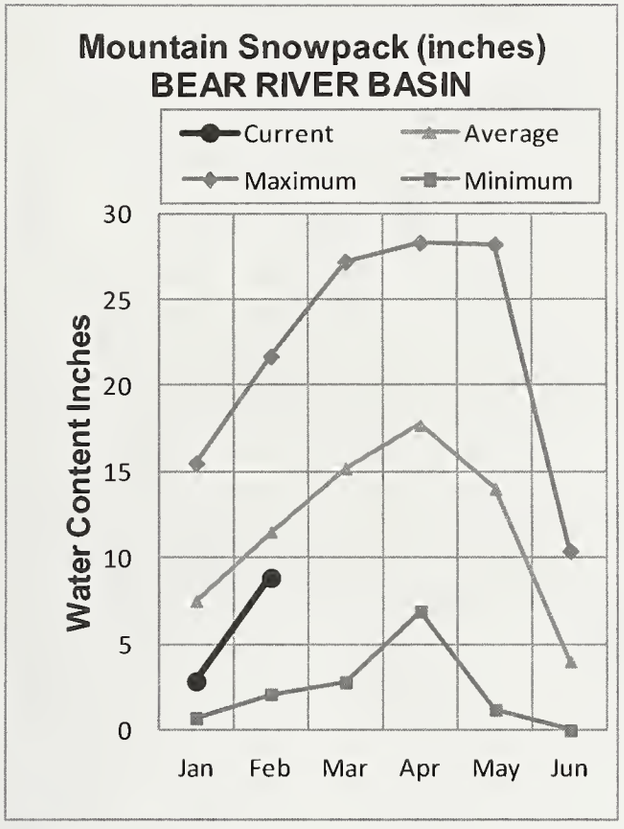
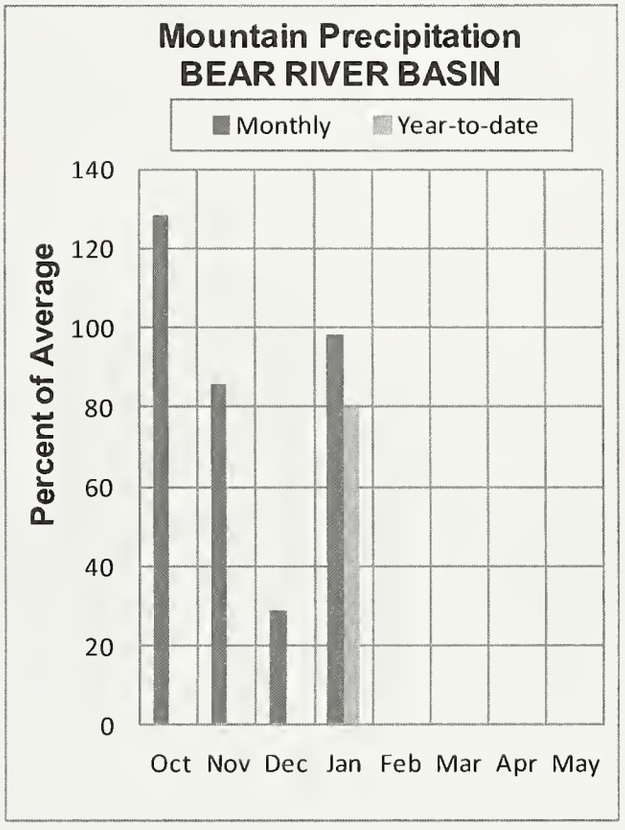
BEAR RIVER BASIN

FEBRUARY 1, 2012





WATER SUPPLY OUTLOOK

The Bear River basin's mountains are hanging on to a mediocre snowpack at 72% of average for the first of February. A few good storms in January improved the snowpack as an average amount of precipitation fell during the month. The next few months will have to work double time to overcome the effects of the dry November and December. The short term weather forecast indicates that dry conditions will continue during the first part of February. Over the last couple of years, the Bear River water users had a reprieve, but the low snow conditions this year are similar to the conditions during the previous decade. The streamflow forecasts call for the streams to flow about 65-75% of normal through the summer. The low end of that range is for the Bear River near Woodruff and the high end is for the Bear River near the Utah-Wyoming state line. Last year, Bear Lake was only 37% of capacity before the big melt. Luckily, that big melt led to the current storage in Bear Lake to be 120% of average, 77% of capacity. Even with the expected low summer streamflow, water users that depend on Bear Lake storage will have ample water supplies this summer.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-JUL	45	69	85	75	101	125	113
	APR-SEP	49	76	94	75	112	139	125
Bear R ab Res nr Woodruff	APR-JUL	3.0	52	90	66	128	184	136
	APR-SEP	3.0	43	91	64	139	210	142
Big Ck nr Randolph	APR-JUL	1.3	2.6	3.5	71	4.4	5.7	4.9
Smiths Fk nr Border	APR-JUL	44	66	80	78	94	116	103
	APR-SEP	50	74	90	74	106	130	121
Bear R bl Stewart Dam	APR-JUL	13.0	95	150	64	205	285	234
	APR-SEP	15.0	107	170	65	235	325	262
Little Bear R at Paradise	APR-JUL	9.8	25	35	76	45	60	46
Logan R nr Logan	APR-JUL	45	75	95	75	115	145	126
Blacksmith Fork nr Hyrum	APR-JUL	12.7	27	37	77	47	61	48

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	1091.1	532.2	906.1
MONTPELIER CREEK	4.0	3.3	2.2	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - February 1, 2012

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
Smiths & Thomas Forks	4	62	84
Bear River ab WY-ID line	4	62	84
Montpelier Creek	1	52	62
Mink Creek	1	51	63
Cub River	1	55	77
Bear River ab ID-UT line	11	59	77
Malad River	1	70	86

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: Streamflow forecasts are projection without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make t storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list doc forecast point. **(Revised Dec 2011).**

Panhandle River Basins
Kootenai R at Leonia, MT
+ Lake Koocanusa storage change
Moyie R at Eastport – no corrections
Smith Creek nr Porthill – no corrections
Boundary Ck nr Porthill – no corrections
Clark Fork R at Whitehorse Rapids
+ Hungry Horse storage change
+ Flathead Lake storage change
+ Noxon Rapids Res storage change
Pend Oreille Lake Inflow
+ Pend Oreille R at Newport, WA
+ Hungry Horse storage change
+ Flathead Lake storage change
+ Noxon Rapids storage change
+ Pend Oreille Lake storage change
+ Priest Lake storage change
Priest R nr Priest R
+ Priest Lake storage change
NF Coeur d'Alene R at Enaville - no corrections
St. Joe R at Calder- no corrections
Spokane R nr Post Falls
+ Coeur d'Alene Lake storage change
Spokane R at Long Lake, WA
+ Coeur d'Alene Lake storage change
+ Long Lake, WA storage change

Clearwater River Basin
Selway R nr Lowell - no corrections
Lochsa R nr Lowell - no corrections
Dworshak Res Inflow
+ Clearwater R nr Peck
- Clearwater R at Orofino
+ Dworshak Res storage change
Clearwater R at Orofino - no corrections
Clearwater R at Spalding
+ Dworshak Res storage change

Salmon River Basin
Salmon R at Salmon - no corrections
Lemhi R nr Lemhi – no corrections
MF Salmon R at MF Lodge – no corrections
SF Salmon R nr Krassel Ranger Station – no corrections
Johnson Creek at Yellow pine – no corrections
Salmon R at White Bird - no corrections

Weiser, Payette, Boise River Basins
Weiser R nr Weiser - no corrections
SF Payette R at Lowman - no corrections
Deadwood Res Inflow
+ Deadwood R bl Deadwood Res nr Lowman
+ Deadwood Res storage change
Lake Fork Payette R nr McCall – no corrections
NF Payette R at Cascade
+ Cascade Res storage change
+ Payette Lake storage change
NF Payette R nr Banks
+ Cascade Res storage change
+ Payette Lake storage change
Payette R nr Horseshoe Bend
+ Cascade Res storage change
+ Deadwood Res storage change
+ Payette Lake storage change
Boise R nr Twin Springs - no corrections
SF Boise R at Anderson Ranch Dam
+ Anderson Ranch Res storage change
Mores Ck nr Arrowrock Dam – no corrections
Boise R nr Boise
+ Anderson Ranch Res storage change
+ Arrowrock Res storage change
+ Lucky Peak Res storage change

Wood and Lost River Basins
Big Wood R at Hailey - no corrections
Big Wood R ab Magic Res
+ Big Wood R at Stanton Crossing nr Bellevue
+ Willow Ck
Camas Ck nr Blaine – no corrections
Big Wood R bl Magic Dam nr Richfield
+ Magic Res storage change
Little Wood R ab High Five Ck – no corrections
Little Wood R nr Carey
+ Little Wood Res storage change
Big Lost R at Howell Ranch - no corrections
Big Lost R bl Mackay Res nr Mackay
+ Mackay Res storage change
Little Lost R bl Wet Ck nr Howe - no corrections

Upper Snake River Basin
Henrys Fork nr Ashton
+ Henrys Lake storage change
+ Island Park Res storage change
Falls R nr Ashton
+ Grassy Lake storage change
+ Diversions from Falls R ab nr Ashton
Teton R nr Driggs - no corrections
Teton R nr St. Anthony
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R ab St. Anthony
+ Teton Dam for water year 1976 only

Henrys Fork nr Rexburg
+ Henrys Lake storage change
+ Island Park Res storage change
+ Grassy Lake storage change
+ 7 Diversions from Henrys Fk btw Ashton to St. Anthony
+ 21 Diversions from Henrys Fk btw St. Anthony to Rexburg
+ 3 Diversions from Falls R ab Ashton
+ 6 Diversions from Falls R nr Ashton to Chester
Snake R nr Flagg Ranch, WY – no corrections
Snake R nr Moran, WY
+ Jackson Lake storage change
Pacific Ck at Moran, WY - no corrections
Buffalo Fork ab Lava nr Moran, WY - no corrections
Gros Ventre R at Kelly, WY - no corrections
Snake R ab Res nr Alpine, WY
+ Jackson Lake storage change
Greys R nr Alpine, WY - no corrections
Salt R R nr Etna, WY - no corrections
Snake R nr Irwin
+ Jackson Lake storage change
+ Palisades Res storage change
Snake R nr Heise
+ Jackson Lake storage change
+ Palisades Res storage change
Willow Ck nr Ririe
+ Ririe Res storage change
The forecasted natural volume for Willow Creek nr Ririe does not include an adjustment for Grays Lake water diverted from Willow Creek drainage through the Clarks Cut diversion and into Blackfoot Reservoir.
Blackfoot R ab Res nr Henry
+ Blackfoot Res storage change
The forecasted Blackfoot Reservoir Inflow includes Grays Lake water diverted from the Willow Creek drainage through the Clarks Cut diversion and into Blackfoot Reservoir.
Portneuf R at Topaz - no corrections
Snake R at Neeley
+ Jackson Lake storage change
+ Palisades Res storage change
+ American Falls storage change
+ Teton Dam for water year 1976 only

Southside Snake River Basins
Goose Ck nr Oakley - no adjustments
Trapper Ck nr Oakley - no adjustments
Oakley Res Inflow - *flow does not include Birch Creek*
+ Goose Ck
+ Trapper Ck
Salmon Falls Ck nr San Jacinto, NV - no corrections
Bruneau R nr Hot Springs - no corrections
Reynolds Ck at Tollgate - no corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Res storage change
Owyhee R nr Rome, OR – no Corrections
Owyhee R bl Owyhee Dam, OR
+ Owyhee Res storage change
+ Diversions to North and South Canals

Bear River Basin
Bear R nr UT-WY Stateline, UT- no corrections
Bear R abv Res nr Woodruff, UT- no corrections
Big Ck nr Randolph, UT - no corrections
Smiths Fork nr Border, WY - no corrections
Bear R bl Stewart Dam nr Montpelier
+ Bear R bl Stewart Dam
+ Rainbow Inlet Canal
Little Bear R at Paradise, UT - no corrections
Logan R nr Logan, UT - no corrections
Blacksmith Fk nr Hyrum, UT - no corrections

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)
Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS report usable storage, which includes active and inactive storage. **(Revised Dec 2011)**

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
Panhandle Region						
Hungry Horse	39.73	---	3451.00	---	3451.0	Active
Flathead Lake	Unknown	---	1791.00	---	1791.0	Active
Noxon Rapids	Unknown	---	335.00	---	335.0	Active
Pend Oreille	406.20	112.40	1042.70	---	1561.3	Dead + Inactive + Active
Coeur d'Alene	Unknown	13.50	225.00	---	238.5	Inactive + Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead + Inactive + Active
Clearwater Basin						
Dworshak	Unknown	1452.00	2016.00	---	3468.0	Inactive + Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	Unknown	46.70	646.50	---	693.2	Inactive + Active
Deadwood	Unknown	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive + Active
Arrowrock	Unknown	---	272.20	---	272.2	Active
Lucky Peak	Unknown	28.80	264.40	13.80	293.2	Inactive + Active
Lake Lowell	7.90	5.80	159.40	---	165.2	Inactive + Active
Wood/Lost Basins						
Magic	Unknown	---	191.50	---	191.5	Active
Little Wood	Unknown	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	Unknown	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active + Surcharge
Grassy Lake	Unknown	---	15.18	---	15.2	Active
Jackson Lake	Unknown	---	847.00	---	847.0	Active
Palisades	44.10	155.50	1200.00	---	1400.0	Dead + Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	Unknown	---	348.73	---	348.7	Active
American Falls	Unknown	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	0.00	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active + Inactive
Wildhorse	Unknown	---	71.50	---	71.5	Active
Owyhee	406.83	---	715.00	---	715.0	Active
Brownlee	0.45	444.70	975.30	---	1420.0	Inactive + Active
Bear River Basin						
Bear Lake	5000.00	119.00	1302.00	---	1421.0	Active + Inactive:
					includes 119	that can be released
Montpelier Creek	0.21	---	3.84	---	4.0	Dead + Active

Interpreting Water Supply Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of .having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example
Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the 90 percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

Weiser, Payette, Boise River Basins
Streamflow Forecasts – January 2006

Forecast Point	Forecast Period	Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000 AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	690

*90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table

USDA Natural Resources Conservation Service
9173 West Barnes Drive, Suite C
Boise ID 83709-1574

OFFICIAL BUSINESS

Issued by
Dave White, Chief
Natural Resources Conservation Service
Washington, DC

Released by
Jeff Burwell, State Conservationist
Rob Sampson, State Conservation Engineer
Natural Resources Conservation Service
Boise, Idaho

Prepared by
Idaho Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morriscy, Data Collection Officer
Jeff Anderson, Hydrologist
Julie Koeberle, Hydrologist
Jeff Graham, Electronics Technician
Chad Gipson, Electronics Technician

Forecasts and Assistance provided by
Rashawn Tama, Forecast Hydrologist
Jolyne Lea, Forecast Hydrologist
NRCS, National Water and Climate Center, Portland, Oregon

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